REMARKS

In the Office Action mailed May 14, 2007 the Examiner noted that claims 1, 14, 15, 17-19, and 32-37 were pending, that claims 2-13, 16, 20-24, and 27-31 have been withdrawn from consideration, and rejected claims 1, 14, 15, 17-19, and 32-37. Claims 1, 14, 15, 17, 19 and 32-36 have been amended and claim 2 has been cancelled, thus, in view of the forgoing claims 1, 14, 15, 17-19, and 32-37 remain pending for reconsideration which is requested. No new matter has been added. The Examiner's rejections are traversed below.

Claims 1, 14, 17, 18, 32, 33 and 35-37 stand rejected as anticipated over Fuss. Claims 15, 19 and 34 stand rejected as obvious over Fuss and Katajamaki.

Fuss is directed to a system that performs a process to improve contrast by using the luminance of an image. In particular, Fuss states:

> Now looking at each process step of the implemented automated image enhancement device, for the first step, the initial color image data initially received from scanner 10 or the like, is assumed to be in RGB space initially, i.e., red--green--blue space, and for the inventive process, **must initially be converted at color space converter 12 to luminance space (YC1C2)**. It is possible that the image will already be in luminance space, as it is common to convert RGB values to luminance/chrominance space for other image processing. YC1C2 space is a useful space in which the inventive process can be performed, and Xerox YES space is one possible embodiment of such a space. Whatever space is used **must have a component which relates to the human visual perception of lightness or darkness**, such as Y of Xerox YES of the "Xerox Color Encoding Standard," XNSS 289005, 1989. In the following, the invention will be described using the Xerox YES color space.

(Fuss, col. 6, lines 23-39, **bold** emphasis added)

> The next step, now accomplished within the automated image enhancement device 14, is to measure the image in terms of some system parameter. In the present embodiment, **a global histogram of the luminance or Y-component of the pictorial image will be derived**. The histogram shown in FIG. 3 is a map of populations of pixels at each luminance value possible in the image. The global histogram refers to the entire image of FIG. 2. If operating in a multi-bit space, such as 8-bit space, we will find that the luminance values will be distributed between 0 and 255. (Fuss, col. 6, lines 47-56, **bold** emphasis added)

As can be seen, Fuss requires the processing of histograms to be limited to luminance based contrast processing.

On page 3 of the Action, the Examiner alleges that "Fuss discloses an image tone level estimating method for estimating a tome level of an image comprising: ...computing a statistic amount for estimation of the tone color value level of a whole of the original image using the characteristic amounts for each of the plurality of sub-areas" and cites Fuss at col. 8, lines 20-

30. This portion of Fuss particularly states:

> It should be noted that the multiplier `2` was just one form of implementing the distinction between relevant and non-relevant local histograms. Another method is to select a fixed number of local histograms having the lowest variances. Yet another method is to use a weighted sum of all local histograms where the weighting factor decreases with increasing variance. In yet another method, the local histograms are only considered relevant if at least a predetermined number T of local histograms are designated relevant local histograms or any combination of the methods.

(See Fuss, col. 8, lines 20-30)

Contrary to the Examiner's assertion, as can be seen, Fuss says nothing about tone processing regarding the histograms.

In contrast, claim 1 is about tone level processing:

> dividing an original image into a plurality of image sub-areas according to tone level information of pixels forming the image
> ...
> computing a statistic amount for estimation of the tone color value level of a whole of the original image using the characteristic amounts for each of the plurality of sub-areas

(See claim 1).

It is submitted that Fuss says nothing about tone processing and in fact teaches away from tone processing.

Katajamaki adds nothing to Fuss with respect to tone processing as Katajamaki is also about lightness using luminance processing:

> It first quantizes the image colors into a small palette and then finds the gamma that distributes the palette colors most evenly in a modeled perceptual **lightness** scale, which adapts to the overall image **luminance**.

(Katajamaki, Abstract, **bold** emphasis added)

Claims 14, 15, 17-19, and 32-37, though of different scope, also emphasize tone processing.

It is submitted that the present claims patentably distinguish over Fuss and Katajamaki for the reasons discussed above and withdrawal of the rejection is requested.

It is submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

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